Sidebands

The Newsletter of the EAST GREENBUSH AMATEUR RADIO ASSOCIATION

www.egara.club

January 2022

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Moving Day - EGARA Makes Way for Lodge Upgrade

A crew of ten EGARA members met up on December 28th to move the club's equipment that is stored the basement of the East Greenbush Masonic Lodge. The move was made necessary in preparation for mold remediation work set for January. The building has been plagued for many years by water infiltration, resulting in a musty smell and mold -- and less than healthy conditions within the building.

Part of the moving team take a moment for a picture

To make life easier, the club did not have to remove its three storage cabinets or the wood frame that holds its Field Day antennas. They only needed to be moved away from the building's basement walls so they could be accessed by the construction crew that will be doing the work. Radios, computers and other electronic gear were moved to temporary storage space provided by club member Peggy Donnelly, KD2LMU, whose law office is just a block away.

Members of the EGARA crew moving one of the club's storage cabinets

Helping with the move were Don Mayotte, KB2CDX; Andy Sullivan, KC2WWJ; Steve VanSickle, WB2HPR; Russ Greenman. WB2LXC; Ridge Macdonald, KB2HWL; Tim Antonacci, WA2WDX; Walt Snyder, N2WJR; Dave Smith, WA2WAP; and Bryan Jackson, W2RBJ. Following the move, team members gathered to enjoy lunch at the My Place restaurant.

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The remediation work at the Masonic Lodge is expected to take two to three weeks and cost an estimated $20,000. Once completed, the club's equipment will need to be brought back to the Masonic lodge and members will once again be asked to lend a hand.

Time for 2022 Dues

It's a new year and time to renew your annual membership -- unless you took advantage of an EGARA multi-year discount. It's easy to pay dues on-line, using the club's fast and secure PayPal account, or you may mail a check. Information and the PayPal link are at:

https://www.egara.club/pay-dues

Thanks to income from our Hamfest, dues remain the same for 2022.

Next Membership Meeting - 7 pm - Wednesday, January 12, 2022

Holiday Party Photo Gallery

The History of Ham Radio: The Fourth Time's the Charm

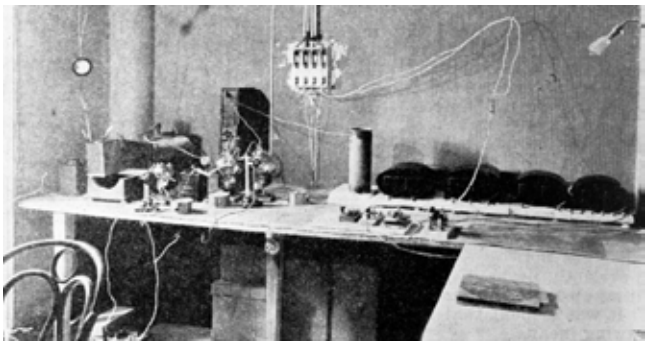
Chris Codella, W2PA, author, John Pelham, W1JA, editor, Phil Johnson, W2SQ, editor

(Editor's note: By special arrangement with the authors, Sidebands is pleased to present this multi-part series on the history of ham radio. Subsequent chapters will be published in future monthly editions of the newsletter)

After the initial thrill of being the first to hear transatlantic signals, Paul Godley's next thought was of making contact, and a helpless frustration not having equipment to transmit a reply. And now, emboldened by the successful second transatlantic tests in December 1922, many amateurs were talking about the possibility of a first two-way contact across the ocean.

In fact, in early 1923 US hams were already informally running two-way tests with Leon Deloy, French 8AB (one of the European stations most widely copied in North America last time), without success, but with both sides hearing each other at different times. Deloy had also started a series of his own tests every Sunday, Tuesday and Thursday, transmitting between 0500 and 0530 GMT, then listening for thirty minutes.

Later in the year he reported experimenting all the way down at 45 meters. Deloy was hearing signals in Nice sent by an experimental station in Paris 435 miles away, in broad daylight with signals readable 16 feet from the phones, no QSS, and very little QRN. He believed that signals of equal power at 200 meters or higher would not have been readable at all. It was a just hint of things to come.



Deloy's Nice experimental shortwave station 8AB

In the US several individual amateurs had been testing as well, exploring shorter wavelengths in a sort of inverted mountain climbing procedure. The explorers would first rendezvous at base camp at 200 meters and then tentatively descend lower in stages. Aside from the freedom from QRM—the short wavelengths were mostly empty except for commercial harmonics—they all found that the strongest signals came through below 170 meters.

To stimulate more such exploration, the ARRL Operating Department announced a 100 meter CQ party for the nights of 24 and 25 March 1923, from 10:30 p.m. to 12:10 a.m. Eastern Time, with ten minutes of transmitting time allotted to each US district plus Canada. Trying to encourage efficient operation, ARRL Traffic Manager Fred Schnell warned, "Don't call CQ 185 times and sign once; no one is going to camp on your wave forever—keep signing at intervals. Everybody is invited to try both sending and listening and to send the logs to the QST Shop. They must be clean logs—not logs written on scrap paper or in the middle of a letter."

Hams turned out enthusiastically. Logs arrived at headquarters from all districts except the seventh, as recorded in a special edition of the Calls Heard section of QST, in which the editor reported that "the gang is absolutely 'nuts' about short waves." All of the calls reported were heard between 80 and 190 meters. Every effort was made to eliminate harmonics of signals at 200 meters or higher that could have been mistaken for short wave signals, presumably so that only those who were actually taking part in the test would be credited with being heard.

All of these experiences fed enthusiasm as hams prepared for the fourth transatlantic tests, which were to run from 21 December 1923 through 10 January 1924. As in the previous test, selected stations in Britain and France would be allocated specific times to transmit code words. But this test would also differ from its predecessors in one significant way: complete QSOs would be their ultimate goal. Even the name of the event changed. "The two-way transatlantic test would be open to everybody—a free-for-all," announced ARRL Secretary Kenneth Warner, meaning that, in addition to the allocated stations, everyone else would get a chance to participate.

Several things were coming together to favor success this time: The government now mandated evening quiet hours, a regulation put in place just a few months earlier. Europe would again transmit and no North American stations were allocated transmit times until 11 January when the two-way attempts would start. Any North American station caught transmitting during the quiet periods would be disqualified from all awards. The only exception would be in case of emergency.

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The History of Ham Radio...

Each night, the test would be conducted between 0100 and 0600 GMT. During the first two hours, any amateur in Europe could transmit between 180 and 220 meters. Then, from 0300 to 0600 individual designated transmitters would send their assigned code words, with British and French amateurs transmitting on alternating nights. Finally, on 11 January, everyone was to attempt two-way contacts (QSOs).

QST offered a "genuine Brown Derby" to the first American to make contact. And a collection of prizes worth $3,600 was donated by various companies to recognize "the best reception records." A Grebe four-tube, 250-watt transmitter was the top prize and would be awarded to the amateur who reported the largest total station miles, meaning the sum of all the distances of all the stations logged, each one counting only once. In the case of code word stations, that bit of information must be correctly copied and reported as well. Winning the top prize excluded an entrant from winning any of the other prizes.

Next after the Grebe were five more award groups, designated A through E. Within each group the top five places carried awards of equipment ranging in value from $200 for first place down to $20 for fifth. The Group A award was for the greatest distance of any single reception, B and C were for the greatest station miles with France or Britain, respectively, on any given night, and D and E were for the greatest station miles with France or Britain over the duration of the tests.

Each amateur would be eligible to receive only one award. As Schnell put it, "It is to be understood that this is purely a sporting event and there is no excuse for anybody to be unreasonable and expect to grab everything in sight." Logs should be complete and contain at least call sign, code word (if any), date, time, and wavelength for each reception, and each entrant should indicate in which group they were competing. The logs would be due at HQ no later than 25 January, a mere two weeks after the end of the tests. With the exception of the equipment awards, the overall structure of the test was beginning to look a lot like today's on-air contests.

As in previous years there would be a friendly bet. This time Schnell would wager on the outcome with UK equipment maker and radio amateur W. W. Burnham. Schnell suggested the stakes would be a pair of green suspenders, based on any challenge Burnham cared to name. They ended up betting "a nice clock" that at least twelve stations from Europe would be heard in North America.

Leon Deloy, 8AB

Recalling the QRM problems in the previous tests, Warner stressed the need for discipline during the upcoming round. He reminded everyone how embarrassing it had been when many stations, including some prominent ones, refused to stand by during the designated listening periods leading to a failure to copy more than just a few European signals "thru the merciless interference caused by the morons in our midst." This year's test would concentrate on receiving, before any two-way attempts. "These tests are an international sporting event," repeated Warner, "and the whole world is invited to participate—but in listening, not in sending," a tall order for hams eager to hit the key.

One amateur taking the challenge particularly seriously was Leon Deloy, who spent a month traveling in the US attending the ARRL convention and visiting various American amateur radio stations in order to study them and prepare his own station, which he hoped would be one side of the first amateur two-way contact between Europe and North America. He knew of several other hams in France also building 1-kW stations specifically for the tests and wanted to get an edge over his competitors. "It will be more than a radio achievement; it will be one more tie of friendship between the two great nations which have been brought so close together by the late war," he wrote.

Seeing the same level of enthusiasm in the US as in France, Deloy also took note of the differences in amateur operations in the two countries. For one thing, the average amateur was much younger in the US. For another, on-air operation was more "business-like" in that US amateurs concentrated on message handling (which was not even allowed in France), whereas the French amateurs emphasized experimenting. Transmitters in the US were often remotely controlled, but in France they were nearby where operators could get their hands on them—as an experimenter should.

-continued on page 5-

The History of Ham Radio...

He thought it quite a shame that spark was still allowed in the US—it had been banned in France.

The building, the traveling, the conversations, the research—a year or more of patient, painstaking preparation was all coming together in the fall of 1923. But the wait for the January transatlantic two-way tests proved to be too long for Monsieur Deloy.

Shortly after he returned from his trip to the US, he began preparing to try. Via telegram to Schnell he announced his intention to transmit on 100 meters from 9:00 to 10:00 p.m. Eastern US Time, beginning on 25 November. The word was then spread via broadcasts. Having just built a new tuner, Schnell was ready and listening on 100 meters the first night and copied 8AB immediately.

Commenting later on that scheduled reception, Warner wrote that his tuner, "the most goshawfullooking haywire receiver you ever saw, had hurriedly been assembled … At the appointed hour there Deloy was, right from the first dot, readable all over the house. Wow, did this short-wave stuff work!"

Deloy continued to call "ARRL" for an hour, as arranged, along with his cipher group "GSJTP." He was notified (by other means) of the good copy and the next night he sent two messages that were copied by both Schnell at 1MO and John Reinarz at 1QP. The first message ever sent from France to North America via amateur radio read:

NICE FRANCE
A.R.R.L.

WANT THIS FIRST TRANSATLANTIC MESSAGE TO CONVEY MOST HEARTY GREETINGS OF FRENCH TO AMERICAN AMATEURS.

LEON DELOY

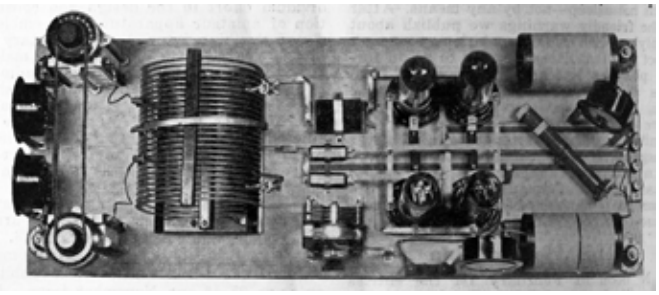
The second message suggested a scheduled two-way contact. 1MO immediately asked for and received permission by the Supervisor of Radio to test on 100 meters—all was ready. The following night Deloy called again for one hour starting at 9:30 p.m. Eastern Time, sent two messages, and ended by asking for acknowledgement (QSL). Schnell then sent a long call on 110 meters and immediately heard Deloy replying.

Not quite ready to believe it, Schnell and Warner, who had joined him at his station, suspected it might just be a coincidental blind transmission, not a reply at all. "Will the fellow never end his call and say something!" wrote Warner, "Aha, he breaks! And then, my lads, came the first transocean R, R, R in all amateur history! Oh boy, oh boy, was that a thrill?"

The history-making first inter-continental amateur QSO was in the log! Deloy's first in-QSO message to Schnell was:

R R QRK UR SIGS QSA VY ONE FOOT FROM PHONES ON GREBE FB OM HEARTY CONGRATULATIONS THIS IS FINE DAY MIM PSE QSL NR 1 2

This meant he had received Schnell's transmission with signals that were readable and very strong, being heard one foot away from the headphones on his Grebe receiver. "MIM" is the alphabetic equivalent of the Morse code for a comma. Lastly, he asked for an acknowledgement of his messages numbered 1 and 2. At 1MO, 8AB was coming through equally well, copyable on Schnell's loudspeaker from twenty-five feet away.



1MO transmitter used for first DX contact

After acknowledging Deloy's messages, Schnell sent some of his own, including greetings to various French notables such as Pierre Corret, the president of the French Joint Transatlantic Committee. While this was going on, Reinartz called 8AB from 1XAM on 115 meters, and heard Deloy acknowledge and ask him to QRX (stand-by). 1XAM was Reinartz's experimental station in South Manchester, Connecticut, specially licensed for operation on 100 meters.

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The History of Ham Radio...

Warner also "exchanged compliments" with Deloy for a short time, then Schnell invited Deloy to send a message for WNP (the MacMillan arctic expedition) on behalf of French amateurs. Although Schnell missed some of it, Reinarz copied it solid and acknowledged receipt. He and 8AB then "chewed the rag" for a while.

"For years we have dreamed of this," beamed Warner, "for over a year we have seen it coming; for weeks we have been sure that winter weather would see the thing accomplished. It has been done, fellows; we are actually in back-and-forth contact with Europe over our amateur sets."

After successfully sending the WNP message to 1MO on his second attempt, Deloy developed some transmitter problems and had to sign off just before 12:30 a.m. The next night conditions were very poor, making a repeat performance impossible. The night after that, on Thanksgiving Day, 29 November 1923, 1XAM made a short contact but could not copy 8AB reliably because of interference from KDKA's "short concert wave" on 103 meters. On the thirtieth, 1MO was hearing 8AB quite loudly but could not copy what he was sending due to heavy static and QRM generated by local receivers! Four other amateurs reported hearing him, too.

John Reinartz with transmitter at 1XAM

More significantly than just being a record for 100-meter work, some amateurs began to recognize that operating on that shorter wavelength, rather than being more of a challenge, may have actually been what made it all possible. All three stations in this first set of QSOs were transmitting using the same Reinartz-modified Hartley oscillator, 8AB's being powered by 25-cycle unrectified AC, which made it copyable using a non-oscillating detector. And the Connecticut pair both ran 500-watt transmitters with some degree of rectification on the plates. All receivers were based on regenerative Reinartz tuners: a Grebe at 1XAM, and a version at 1MO that was, as described by Warner, "at best a pile of junk" (a friendly jab at Schnell).

The point of all this was that there was nothing remarkable or special about any of the equipment except for the fact that the contacts were all made with it tuned to very short wavelengths. Warner concluded that, "the accomplishment is merely a demonstration, more effective than all of our talk, of the efficacy of the shorter waves."

He then admitted that it would be "hard to explain to you fellows, we know, how an A.R.R.L. officer happened to win the Brown Derby offered by the Editor of QST as a trophy to the first ham to work to Europe. We hear agonized yells of 'Collusion!' We're helpless, tho. Schnell vowed his determination to win the lid, he got busy and did it—and there's nothing else to do, he has won it. (Jealous of our high British hat, we think, and wanted something to wear himself. Hi!)."

For his part in the achievement, Leon Deloy was later made a Chevalier de la Légion d'Honneur, or Knight of the Legion of Honor, the fifth degree of France's highest decoration, first established by Napoleon Bonaparte.

Testifying before the US Senate seven years later, Maxim described the event to try to convey the excitement of each new achievement in amateur radio:

> ***"It is difficult to explain the thrill that accompanies an experience such as this. It is sublime and carries with it a sort of uplift that makes us better and deeper-thinking men. The precision of it all, the picture of the Frenchman sitting in his little den in France, waiting for the precise second to come around, hand on key, the Americans sitting in their little shack in a little street in New England, silently listening and watching the time, the miles and miles of lonely black ocean over which the little electro-magnetic oscillations must travel, are utterly compelling to us amateurs."***

On the Beam
News & Notes

A Token of Our Thanks

EGARA sent a $100 gift card for Christmas to Bob Isby, K2RHI, as a token of the club's thanks for installing its new 220mhz repeater on the tower located on the campus of Hudson Valley Community College in Troy.

At the same time, Bob also upgraded the existing antenna and coax connected to the two meter repeater, which is also at the site.

The installation took place over two weekends in October and November after Bob cleared the installation with the college on behalf of EGARA. His efforts concluded a two year search by the club to find a suitable location for the 220 repeater which had been purchased by member Steve VanSickle, WB2HPR, for club use.

In the photo, Bob is seen checking the new repeater's performance as EGARA Treasurer Don Mayotte, KB2CDX, looks on.

EGARA FCC Exam Session Earns New Licenses for Six

Six new licenses or upgrades were earned by test applicants who attended EGARA's VE session on December 4th. They included EGARA member Peter Brickman, KD2YLG, who passed his Technician exam. Also passing their exams were:

Andrew Hoskinson, KD2YLC. Technician
Raymond Barber, KD2YLF, Technician
David Biddle, KD2YLD, Technician
Greg Potter, KD2SFL, Technician & General
JohnPregent, KD2CDK, Amateur Extra

Congratulations to All!

The test was held at the East Greenbush Masonic Lodge, which graciously donated use of the building for the test session.

EGARA plans to resume holding at least three test sessions a year during 2022.

Voice Heard 'Round the World: Voice of America Museum a Historic Marvel

Steve Stephens, Special to The Columbus Dispatch

Imagine, if you will, a voice so strong that it shakes the very foundations of global tyranny.

In the early days of World War II, a group of Americans, including President Franklin Roosevelt, actor and director John Houseman and Cincinnati entrepreneur Powell Crosley Jr. imagined such a voice, one that could counter Nazi propaganda in Hitler's own backyard.

They named it The Voice of America.

Visitors to the Voice of America Museum can see the original control room where engineers directed programs around the globe.

The Voice of America broadcast its signal from Bethany Station, now the National Voice of America Museum of Broadcasting north of Cincinnati.

Today, the National Voice of America Museum of Broadcasting, 8070 Tylersville Road, West Chester, Ohio occupies the site from which the service beamed its message around the world for 50 years beginning in 1944, recounting its history and remembering the people, especially Crosley, who made it possible.

Voice of America was created to counter Nazi propaganda and later was used against Russian propaganda during the Cold War

Although the Voice of America is still around, it was Hitler's canny use of radio as a propaganda weapon that first spurred the American government to create its own world-wide broadcast news service.

Those broadcasts originally rode over a total of 1.5 million watts of RF power across the globe, originating from six state-of-the art transmitters, each the size of three city buses.

Not by accident, Bethany Station, as the broadcast site was known, was located on 640 acres adjacent to the site from which Crosley broadcast his own commercial WLW radio station.

At the time, WLW broadcast with 500,000 watts of power, the most ever licensed. And Crosley, who also operated a commercial shortwave broadcast station, had access and knowledge of the engineers, technicians and equipment that could give the Voice of America the global reach it needed.

Hitler knew well about Bethany Station, referring on more than one occasion to the "Cincinnati liars" who broadcast the news he'd rather not be heard. Today the museum celebrates the epithet with "Cincinnati liars" T-shirts in the gift shop, and nearby Grainworks Brewing Co. offers a Cincinnati Liars Lager.

Voice of America programs originated in Washington, D.C., and were sent by telephone line (and later by satellite) to Bethany and other relay stations, where directional antennas would aim the signal at the part of the world targeted for the specific programs. Houseman, the first director of the Voice of America, insisted that the service resist the temptation to become a propaganda service itself and to maintain credibility by telling the straight story.

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VOA Museum Now Open...

John Dominic, executive director of the museum, explains a scale model of the Bethany Station site.

After World War II, the Voice of America continued broadcasting news, English language lessons and American-style entertainment around the world, especially to places such as the Soviet Union, where oppressive governments limited information to their own citizens.

But with advancing technology, Bethany Station became obsolete. It was mothballed in 1994 and reopened in recent years as the not-for-profit museum.
Original radio equipment on display at Voice of America museum

Visitors can see the original control room and much of the original equipment, plus listen to archived and current Voice of America programming.

They also have the opportunity to about the lives touched around the globe by listeners seeking -- sometimes at the risk of imprisonment or death -- real news and real voices from the outside world.

Many such listeners have visited the museum, said executive director John Dominic, himself a former station manager of a Cincinnati television station. “People who remember listening to (the Voice of America) where it was banned come here with tears in their eyes,” Dominic said. “The lengths they would go to to listen is amazing.”

Other exhibits focus on the development of radio technology and the early days of American broadcast entertainment.

The museum also pays tribute to the memory and imagination of Crosley, a ground-breaking visionary of technology and an expert marketer. He resembled a brilliant mix of Thomas Edison and P.T. Barnum, Dominic said. Crosley’s businesses included auto making, an airline, and kitchen and electronic appliances including, of course, radios.

One of the massive VOA transmitters on display. At its peak the facility had six transmitters broadcasting with 250 kW and two transmitting with 50 kW.

Crosley’s “Radio Newspaper” Machine

One failed Crosley venture was an electronic newspaper, delivered by radio signals overnight to an early version of a fax machine in subscribers' homes or offices.

WLW was also a hotbed of development for mid-20th century broadcast talent, helping launch the careers of many famous entertainers including singer Rosemary Clooney, comedian Red Skelton and — that’s a signpost up ahead! — Rod Serling, who went on to produce and host “The Twilight Zone” television anthology.

The National Voice of America Museum of Broadcasting is open from 1 to 4 p.m. Saturdays and Sundays. For more information visit voamuseum.org.

A Wikipedia for Ham Radio?

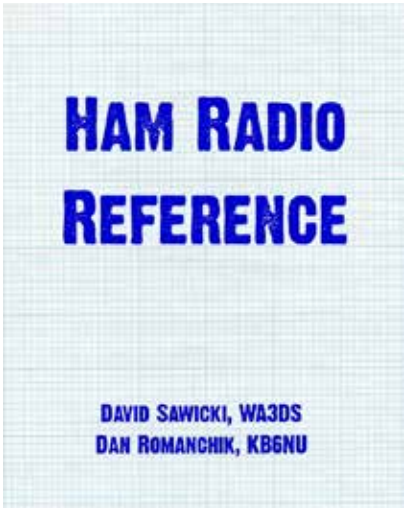
By Dan Romanchik, KB6NU

I and co-author David Sawicki, WA3DS, have just published the Ham Radio Reference. The book took quite a while to write because there's quite a bit of information in it. Not only does it contain an extensive glossary of amateur radio terms, there are chapters on:

- CW abbreviations and Q signals.
- Amateur radio bands and frequency allocations.
- Call district, U.S. section, ITU region, and CQ region maps.
- Part 97 rules.
- DX Code of Conduct.
- Traffic handling.

The technical reference section includes information on:

- Units of measurement.
- Scientific notation
- Ohm's Law, power, and decibels.
- Frequency, wavelength, and antenna lengths.
- Resistor color code.
- Schematic symbols.
- Wire and coaxial cable data.
- Data communications interfaces.



The book is available in both PDF (**https://www.kb6nu.com/product/ham-radio-reference/**) and Kindle versions (**https://www.amazon.com/Ham-Radio-Reference-David-Sawicki-ebook/dp/B09MC7WFWV/**).

Publishing this book got me thinking about another idea, though. After I sent copies to my colleagues at Amateur Radio Digital Communications (https://wwwampr.org), Rosy, KJ7RYV, our executive director, emailed me: "Dan, this is great! Thank you. I wonder…what if we made a page on our website that was just a set of links to references like this. It could be helpful, especially for beginners. What do you think?"

At ARDC, we had just created a list of other amateur radio resources for internal use, and I had a similar thought about putting that list online. The list reminded me of the AC6V website (http://ac6v.com/), which included all kinds of good stuff for radio amateurs. Unfortunately, as is noted on the website, "AC6V.com is an archive of Rod/AC6V's webpages, and is no longer being updated."

Rod, AC6V, passed in 2008 and many of the links on AC6V.Com are now dead, and much of the information is outdated. And, there are a lot of new resources—like our new book—that are missing. Since there aren't any other encyclopedic resources for ham radio—at least none that I know of—I am proposing that we form a group to develop a "Wikipedia for ham radio." It would be a lot of work, but if we could recruit a community of editors, then it might be doable. In addition, a group effort would be a lot more dynamic and sustainable than a one-person effort.

So, I'm throwing this out there. Do you think it's worth creating an up-to-date AC6V.Com? Should it be a wiki or perhaps some other kind of website? Would you be willing to help? If so, send me an email (cwgeek@kb6nu.com). If there's enough support for this idea, perhaps we could get the ball rolling after the first of the year.

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Dan Romanchik, KB6NU, is the author of the KB6NU amateur radio blog (KB6NU.Com), the "No Nonsense" amateur radio license study guides (https://KB6NU.Com/study-guides/).

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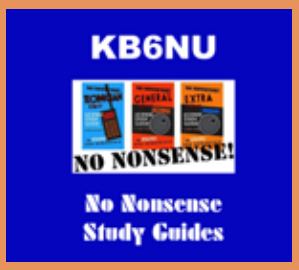

Ham Radio University Going Virtual Again

With COVID-19 uncertainties precluding an in-person gathering for a second year, the 23rd annual Ham Radio University (HRU) educational conference will be held as a virtual event again this year, on Saturday, January 8, 1300 - 2000 UTC, as an online GoToWebinar video conference.

Advance registration is required and began on December 20.

Five forums will be added this year, for a total of 19 presentations by experts in a broad range of amateur radio activities, including Amateur Radio Emergency Communications. Other topics are:

- **Basics of HF Operating**
- **Ham Radio Contesting and DXing**
- **Communicating through Amateur Radio Earth Satellites**
- **Software-Defined Radios**
- **HF and VHF Digital Communications**
- **Parks on the Air**
- **SKYWARN**
- **Cables and Connectors**
- **Using Raspberry Pi Computers in Amateur Radio.**

Online attendees will be able to ask questions of the presenters. Founded by Phil Lewis, N2MUN (SK), HRU also serves as the online convention of the ARRL NYC-Long Island Section.

As in past years, participation in HRU 2022 is free; an optional donation of $5 is suggested.

Additional information is on-line, including the schedule of forums and registration.

http://www.hamradiouniversity.org/

Spain, Norway Seek Ways to Attract a Younger Generation of Hams

Spain's national amateur radio society, Union of Spanish Radio Amateurs (URE), is attempting to entice youth and youngsters to become interested in amateur radio. URE is offering free membership in the organization and a free amateur radio license manual. The organization has framed amateur radio as "the technological and experimental hobby that will hook you forever."

URE's pitch to the next generation of radio amateurs is that ham radio opens "a universe of technology and operational challenges" that includes advanced digital modes, satellite and microwave communication, contesting, and experimentation, as well as "great opportunities to learn and make friends."

Prospective young radio amateurs must be between 14 and 18 years old to qualify for a free URE membership and a license manual to prepare for the exam and obtain an operator license. URE says the manual explains the basics of electricity, electronics, and telecommunications, as well as the regulatory structure.

Those aged under 25 can qualify for a half-price membership once they've obtained their radio amateur license and become full URE members.

Meanwhile, Norway is looking to introduce a new 10 W entry-level license that will enable 12- and 13-year-olds to get started building simple transmitters and receivers. The Research Council of Norway has granted 1 million kroner (approximately $114,600) to support the Radio Communications Technology for Young People project, aimed at recruiting young radio amateurs.

Norway's national amateur radio organization, NRRL, said the program wants to leverage young peoples' "digital competence and understanding of digital technology." NRRL and the Norwegian Defence Research Establishment (FFI) are partnering in the project, headed by Torbjørn Skauli, LA4ZCA. The project aims to increase interest in technology and science in schools. The idea is to introduce amateur radio as a high school elective, as well as develop an entry-level certificate allowing 12- and 13-year-olds to get started with amateur radio.

The Norwegian Communications Authority (NKOM) has already laid out the requirements and conditions of the entry-level license. Skauli, a professor at FFI, has previous experience with computer coding workshops in schools. The proposal for an entry-level certificate has received broad support in education and public administration in Norway, according to the SSA (Sweden's national amateur radio organization), which says it's looking forward to cooperating with NRRL in this area.

Pay Your 2022 EGARA Dues The Quick and Easy Way!

www.egara.club/pay-dues

CALENDAR

January 8, 2022 - Ham Radio University (see story on page 12 for details and registration info.

January 12, 2022 - 7 pm - Regular monthly club meeting. Masonic Lodge, 710 Columbia Turnpike, East Greenbush, NY.

Pro Tip: Lithium-Ion Battery Health

Over the years, scientists have tweaked the formula of lithium-ion batteries to try to make them last longer, charge faster, and work more efficiently. But they still have a set lifetime because the cycle of battery charging, discharging, and recharging can only be repeated a set number of times. The limit varies, but most rechargeables last 2 or 3 years.

That's because of the chemical reactions happening at the anode and cathode. As they occur, thin layers of insulating atoms form, obstructing the electrodes' effectiveness. If you've noticed battery life dropping on your radio or cell phone, you can blame atomic buildup.

So how do you make your lithium-ion battery last as long as possible? Shallow discharges and recharges are better than full ones, because they put less stress on the battery, making it lasts longer. It's recommended that you only let it discharge to 50 percent before topping it up again. But it's best to avoid pushing a lithium-ion battery to 100 percent.

If you do charge your battery all the way up, don't leave the device plugged in. Instead, follow the shallow discharge and recharge cycle. Lithium-ion batteries have built-in safeguards to stop them from exploding if they're left charging while at maximum capacity. But in the long term, electronics will age faster if they're constantly plugged in while already charged to 100 percent.

Although shallow charges and discharges hit the longevity sweet spot, there are exceptions to this rule. Once a month, let the battery undergo a full discharge to about 5 percent, just to recalibrate its self-assessment. This allows your radio, laptop or smartphone to give you an "estimated battery time remaining" reading that's somewhat accurate. Regular full discharges aren't a good idea, though. In general, you should be keeping your battery above 20 percent.

Wanted

- **Tri-band VHF Base station antenna**
  Contact Dave WA2WAOP-Qsl @Verizon.net

For Sale...

- **Comet CHA-250BX 80-6M vertical antenna.** Highly rated for DX work, no ground radial design and no tuner needed. Handles 250 watts. Great ii you have limited space. Sells for $429.00 new. Selling for $100.00.
  Contact Bryan at W2RBJ@outlook.com.

- **Ameritron 811h** completely reconditioned by Steve VanSickle - $750.00
- **Johnson Viking Transmitter** W/Ppt Module --Antenna Relay-- Mic And Cable--Spare 6146 --$450.00
- **HQ-170 Receiver W/Clock Spare Parts**-- Needs Tune-Up---$450, or $800.00 for pair: Viking and HQ-170
- **A-99** 10/11 Meter Antenna, $40
- **50+ FT RG8U** Coax, $40.00
- **RG8X Coax** -- 50 cents per foot
- **Pi-Star Setup** - Pi0w/Module And Antenna +16 G Sd Card. Can demonstrate. Has my setup on it but must format and new Pi-Star to work for you .
- **THHN 12G wire** - 25 cents per foot
- **Dell 5570 Laptop** -- Tough Screen -Bl Keyboard 1T Hd -16 G Ram I7 Intel, $375 (Does not work for FT8)
- **Hm-8 Heil Mic and Boom Desktop,** $45.00-- Setup For Ftdx-3000D
- **Laser Printer,** B&W, $25.

Contact Dave WA2WAP-Qsl @Verizon.net

- **VIBROPLEX "Bug" semi-automatic key.** Original "PRESENTATION" Model with Gold Plated baseplate escutcheon. Beautiful heavily chromed upper parts, bright red finger pieces, jeweled bearings. Lists for $350 but you can own this beauty for only $250 plus postage. In absolutely beautiful condition, this dazzling example of Vibroplex engineering will be supplied in a unique hard-shell protective carrying case.

Contact Steve at: (518) 326-0902 or stevewb2hpr@gmail.com

The East Greenbush Amateur Radio Association

Organized in 1998, by Bert Bruins, N2FPJ, (SK) and Chris Linck, N2NEH, the East Greenbush Amateur Radio Association, an ARRL affiliate, is committed to providing emergency services, educational programs, and operating resources to amateur radio operators and residents of the Capital Region of New York State. The club station is W2EGB. The club also has several VHF and UHF repeaters open to club members and the public.